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EXAMINER	
AHMED, SALMAN	

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2476	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/722,638	STUMPERT, MARTIN	
	Examiner	Art Unit	
	SALMAN AHMED	2476	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,15 and 22-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,15 and 22-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11/26/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 3, 7, 9, 10, 15, 24, 25 and 26 are rejected under 35 U.S.C. 102(a) as being anticipated by Valentine et al. (US PAT 6353607, hereinafter Valentine).

In regards to claim 1, Valentine anticipates a method in a communication network (network in figures 5 or 6 or 7), having a network control plane (figures 5, 6 and 7 element 32) and a connectivity plane (figures 5, 6 and 7 element 40), of routing a connectivity plane message to a mobile terminal (figures 5 or 6, mobile 20), which can be reached via two or more Media Gateways (MGWs) (MGW 74 and 76 in figures 5 or 6 or 7) of the connectivity plane, the method comprising the steps of: routing the connectivity plane message routing the connectivity plane message separately from an associated network control plane message; determining positional information, that indicates a geographical location (interpreted as hand-off location) of the mobile terminal, by a Mobile Switching Center Server (MSC Server) (MSC 12 or 14) to which the mobile terminal is attached, and routing information, the routing information being associated with the MSC Server; based on the positional information, selecting one of the two or more MGWs of the connectivity plane via which the connectivity plane message is to be routed to the mobile terminal; and routing the connectivity plane

message to the mobile terminal via the selected MGW of the connectivity plane (columns 4-5, lines 54-57, Turning to FIG. 5, an embodiment of a communications system according to the invention is shown having MSCs 12 and 14 coupled to corresponding media gateways 74 and 76 within PLMN 50. The MSCs 12 and 14 and media gateways 74 and 76 are coupled to the IP network 40. When a user of mobile handset 20 places a call, the call is connected to anchor MSC 12. As the hand set user moves into the operating area of the non-anchor MSC 14, the inter-MSC handover occurs over the IP network 40 rather than through circuit connection 32. The fact that inter-MSC handover occurs over the IP network 40 reduces the use of the circuit connection 32. In general, handover occurs through the communication of MSCs 12 and 14 with their corresponding media gateways 74 and 76. The fact that IP network 40 is utilized means that more efficient use of the cellular network can be achieved since MSCs 12 and 14 are connected to the same IP network 40. Thus, voice data packets remain packetized as long as possible over a less expensive connection medium. Two mechanisms for by-passing the circuit connections 32 between MSC 12 and 14 will be described. First, a method of communicating IP address information between the MSCs 12, 14 and the media gateways 74, 76 is contemplated. When the MSC 12 anchors a call, a call is initiated through handset 20 having an associated Visitor Location Register (VLR). The anchor MSC 12 transmits a network IP address 80 to its corresponding media gateway 74. The IP address 80 may be used as a transaction identifier which can include the IP address, socket, and/or session number associated with the media gateway 74 for that call, for example. Thus, the anchor MSC 12 sends the IP network

address 80 that is currently being used for the call to the non-anchor MSC 14. The IP network address 80 is in effect being used as a transaction identifier, but may actually be a socket identifier or other identifier that will enable the media gateway 74 at the anchor MSC 12 to unambiguously identify the call. Next, the IP network address 80 can be transmitted to the non-anchor MSC 14 along with other information as part of the inter-MSC handover procedure. The non-anchor MSC 14 communicates with its associated media gateway 76 through a control message 82 to contact the media gateway 74 with the given IP network address 80 and request redirection of the speech packets. The media gateway 76 does this with a control message 82 across the IP network 40. The media gateway 74 at the anchor MSC 12 responds with an acknowledgment to the media gateway 76 at the non-anchor MSC 16 which then informs the MSC 14. The handover is then performed by transmitting speech packets 84 containing a voice message over the IP network 40 from MSC 12 to MSC 14 as shown in FIG. 7. The IP address 80 can be sent from the anchor MSC 12 to the non-anchor MSC 14 in a Mobile Application Part (MAP) message. As is known to those of ordinary skill, MAP refers to a control protocol used between nodes in the GSM network. There are existing MAP messages used for inter-MSC handover that go between the anchor MSC 12 and the non-anchor MSC 14. Thus, the invention contemplates adding the IP address information to these existing MAP messages. An alternate method of the present invention is based upon receiving the handover request for the non-anchor MSC 14 to use the control message 82 to query its associated media gateway 76 for an IP network address 80. The IP network address 80 is then returned

to the anchor MSC 12 which forwards a control message 82 to its media gateway 74. The media gateway 74 then reroutes speech packets which contain the phone call information to the specified IP network address 80).

In regards to claim 10, Valentine anticipates a method of controlling the routing of a connectivity plane message to a mobile terminal (figures 5 or 6, mobile 20) which can be reached via two or .more Media Gateways (MGWs) (MGW 74 and 76 in figures 5 or 6 or 7) and which is attached to a Mobile Switching Center Server (MSC Server) (MSC 12 or 14), the method comprising the steps of: receiving a request for routing information; generating positional information, by the MSC Server to which the mobile terminal is attached, indicating the geographical location of the mobile terminal and routing information associated with the MSC Server to which the mobile terminal is attached; transmitting a preferred routing using the positional information(al);and choosing one of the two or more MGWs through which the connectivity plane message is routed to the mobile terminal (columns 4-5, lines 54-57, Turning to FIG. 5, an embodiment of a communications system according to the invention is shown having MSCs 12 and 14 coupled to corresponding media gateways 74 and 76 within PLMN 50. The MSCs 12 and 14 and media gateways 74 and 76 are coupled to the IP network 40. When a user of mobile handset 20 places a call, the call is connected to anchor MSC 12. As the hand set user moves into the operating area of the non-anchor MSC 14, the inter-MSC handover occurs over the IP network 40 rather than through circuit connection 32. The fact that inter-MSC handover occurs over the IP network 40 reduces the use of the circuit connection 32. In general, handover occurs through the

communication of MSCs 12 and 14 with their corresponding media gateways 74 and 76. The fact that IP network 40 is utilized means that more efficient use of the cellular network can be achieved since MSCs 12 and 14 are connected to the same IP network 40. Thus, voice data packets remain packetized as long as possible over a less expensive connection medium. Two mechanisms for by-passing the circuit connections 32 between MSC 12 and 14 will be described. First, a method of communicating IP address information between the MSCs 12, 14 and the media gateways 74, 76 is contemplated. When the MSC 12 anchors a call, a call is initiated through handset 20 having an associated Visitor Location Register (VLR). The anchor MSC 12 transmits a network IP address 80 to its corresponding media gateway 74. The IP address 80 may be used as a transaction identifier which can include the IP address, socket, and/or session number associated with the media gateway 74 for that call, for example. Thus, the anchor MSC 12 sends the IP network address 80 that is currently being used for the call to the non-anchor MSC 14. The IP network address 80 is in effect being used as a transaction identifier, but may actually be a socket identifier or other identifier that will enable the media gateway 74 at the anchor MSC 12 to unambiguously identify the call. Next, the IP network address 80 can be transmitted to the non-anchor MSC 14 along with other information as part of the inter-MSC handover procedure. The non-anchor MSC 14 communicates with its associated media gateway 76 through a control message 82 to contact the media gateway 74 with the given IP network address 80 and request redirection of the speech packets. The media gateway 76 does this with a control message 82 across the IP network 40. The media gateway 74 at the anchor

MSC 12 responds with an acknowledgment to the media gateway 76 at the non-anchor MSC 16 which then informs the MSC 14. The handover is then performed by transmitting speech packets 84 containing a voice message over the IP network 40 from MSC 12 to MSC 14 as shown in FIG. 7. The IP address 80 can be sent from the anchor MSC 12 to the non-anchor MSC 14 in a Mobile Application Part (MAP) message. As is known to those of ordinary skill, MAP refers to a control protocol used between nodes in the GSM network. There are existing MAP messages used for inter-MSC handover that go between the anchor MSC 12 and the non-anchor MSC 14. Thus, the invention contemplates adding the IP address information to these existing MAP messages. An alternate method of the present invention is based upon receiving the handover request for the non-anchor MSC 14 to use the control message 82 to query its associated media gateway 76 for an IP network address 80. The IP network address 80 is then returned to the anchor MSC 12 which forwards a control message 82 to its media gateway 74. The media gateway 74 then reroutes speech packets which contain the phone call information to the specified IP network address 80).

In regards to claim 15, Valentine anticipates a network component (Elements 12 or 14), in a communication network comprising a network control plane (Element 32) and a connectivity plane (Element 40), for routing a connectivity plane message to a mobile terminal (figures 5 or 6, mobile 20) attached to the network component and which can be reached via two or more Media Gateways (MGWs) (MGW 74 and 76 in figures 5 or 6 or 7) of the connectivity plane, the network component comprising: a first interface (interface connecting mobile to MSC) for receiving a request for routing

information, the routing information being associated with a Mobile Switching Center Server (MSC Server) of the network control plane to which the mobile terminal is attached; a processing component for generating positional information indicating the geographical location of the mobile terminal, for routing the connectivity plane message to the mobile terminal; and providing routing information associated with the network component, and a second interface (Interface connecting MSC to MGW) for transmitting positional information and the routing information for receiving network switch to select one of the two or more MGWs via which the connectivity plane message is to be routed to the mobile terminal (columns 4-5, lines 54-57, Turning to FIG. 5, an embodiment of a communications system according to the invention is shown having MSCs 12 and 14 coupled to corresponding media gateways 74 and 76 within PLMN 50. The MSCs 12 and 14 and media gateways 74 and 76 are coupled to the IP network 40. When a user of mobile handset 20 places a call, the call is connected to anchor MSC 12. As the hand set user moves into the operating area of the non-anchor MSC 14, the inter-MSC handover occurs over the IP network 40 rather than through circuit connection 32. The fact that inter-MSC handover occurs over the IP network 40 reduces the use of the circuit connection 32. In general, handover occurs through the communication of MSCs 12 and 14 with their corresponding media gateways 74 and 76. The fact that IP network 40 is utilized means that more efficient use of the cellular network can be achieved since MSCs 12 and 14 are connected to the same IP network 40. Thus, voice data packets remain packetized as long as possible over a less expensive connection medium. Two mechanisms for by-passing the circuit connections 32 between MSC 12

and 14 will be described. First, a method of communicating IP address information between the MSCs 12, 14 and the media gateways 74, 76 is contemplated. When the MSC 12 anchors a call, a call is initiated through handset 20 having an associated Visitor Location Register (VLR). The anchor MSC 12 transmits a network IP address 80 to its corresponding media gateway 74. The IP address 80 may be used as a transaction identifier which can include the IP address, socket, and/or session number associated with the media gateway 74 for that call, for example. Thus, the anchor MSC 12 sends the IP network address 80 that is currently being used for the call to the non-anchor MSC 14. The IP network address 80 is in effect being used as a transaction identifier, but may actually be a socket identifier or other identifier that will enable the media gateway 74 at the anchor MSC 12 to unambiguously identify the call. Next, the IP network address 80 can be transmitted to the non-anchor MSC 14 along with other information as part of the inter-MSC handover procedure. The non-anchor MSC 14 communicates with its associated media gateway 76 through a control message 82 to contact the media gateway 74 with the given IP network address 80 and request redirection of the speech packets. The media gateway 76 does this with a control message 82 across the IP network 40. The media gateway 74 at the anchor MSC 12 responds with an acknowledgment to the media gateway 76 at the non-anchor MSC 16 which then informs the MSC 14. The handover is then performed by transmitting speech packets 84 containing a voice message over the IP network 40 from MSC 12 to MSC 14 as shown in FIG. 7. The IP address 80 can be sent from the anchor MSC 12 to the non-anchor MSC 14 in a Mobile Application Part (MAP) message. As is known to

those of ordinary skill, MAP refers to a control protocol used between nodes in the GSM network. There are existing MAP messages used for inter-MSC handover that go between the anchor MSC 12 and the non-anchor MSC 14. Thus, the invention contemplates adding the IP address information to these existing MAP messages. An alternate method of the present invention is based upon receiving the handover request for the non-anchor MSC 14 to use the control message 82 to query its associated media gateway 76 for an IP network address 80. The IP network address 80 is then returned to the anchor MSC 12 which forwards a control message 82 to its media gateway 74. The media gateway 74 then reroutes speech packets which contain the phone call information to the specified IP network address 80).

In regards to claim 24, Valentine anticipates a method, in a communication network employing a network control plane (figures 5, 6 and 7 element 32) and a connectivity plane (figures 5, 6 and 7 element 40), of routing a connectivity plane message to a mobile terminal (figures 5 or 6, mobile 20) that can be reached via two or more MGWs (MGW 74 and 76 in figures 5 or 6 or 7) of the connectivity plane, the connectivity plane message being routed separately from an associated network control plane message, the method comprising the steps of: determining a geographic location (interpreted as hand-off location) of the mobile terminal, with respect to the two or more MGWs of the connectivity plane; receiving routing information associated with a Mobile Switching Center Server (MSCS) (MSC 12 or 14) of the network control plane to which the mobile terminal is attached; using the positional information of the mobile terminal to choose one of the MGWs of the connectivity plane via which the connectivity plane

message is routed to the mobile terminal; and routing the connectivity plane message to the mobile terminal via the chosen MGW of the connectivity plane (columns 4-5, lines 54-57, Turning to FIG. 5, an embodiment of a communications system according to the invention is shown having MSCs 12 and 14 coupled to corresponding media gateways 74 and 76 within PLMN 50. The MSCs 12 and 14 and media gateways 74 and 76 are coupled to the IP network 40. When a user of mobile handset 20 places a call, the call is connected to anchor MSC 12. As the hand set user moves into the operating area of the non-anchor MSC 14, the inter-MSC handover occurs over the IP network 40 rather than through circuit connection 32. The fact that inter-MSC handover occurs over the IP network 40 reduces the use of the circuit connection 32. In general, handover occurs through the communication of MSCs 12 and 14 with their corresponding media gateways 74 and 76. The fact that IP network 40 is utilized means that more efficient use of the cellular network can be achieved since MSCs 12 and 14 are connected to the same IP network 40. Thus, voice data packets remain packetized as long as possible over a less expensive connection medium. Two mechanisms for by-passing the circuit connections 32 between MSC 12 and 14 will be described. First, a method of communicating IP address information between the MSCs 12, 14 and the media gateways 74, 76 is contemplated. When the MSC 12 anchors a call, a call is initiated through handset 20 having an associated Visitor Location Register (VLR). The anchor MSC 12 transmits a network IP address 80 to its corresponding media gateway 74. The IP address 80 may be used as a transaction identifier which can include the IP address, socket, and/or session number associated with the media gateway 74 for that call, for

example. Thus, the anchor MSC 12 sends the IP network address 80 that is currently being used for the call to the non-anchor MSC 14. The IP network address 80 is in effect being used as a transaction identifier, but may actually be a socket identifier or other identifier that will enable the media gateway 74 at the anchor MSC 12 to unambiguously identify the call. Next, the IP network address 80 can be transmitted to the non-anchor MSC 14 along with other information as part of the inter-MSC handover procedure. The non-anchor MSC 14 communicates with its associated media gateway 76 through a control message 82 to contact the media gateway 74 with the given IP network address 80 and request redirection of the speech packets. The media gateway 76 does this with a control message 82 across the IP network 40. The media gateway 74 at the anchor MSC 12 responds with an acknowledgment to the media gateway 76 at the non-anchor MSC 16 which then informs the MSC 14. The handover is then performed by transmitting speech packets 84 containing a voice message over the IP network 40 from MSC 12 to MSC 14 as shown in FIG. 7. The IP address 80 can be sent from the anchor MSC 12 to the non-anchor MSC 14 in a Mobile Application Part (MAP) message. As is known to those of ordinary skill, MAP refers to a control protocol used between nodes in the GSM network. There are existing MAP messages used for inter-MSC handover that go between the anchor MSC 12 and the non-anchor MSC 14. Thus, the invention contemplates adding the IP address information to these existing MAP messages. An alternate method of the present invention is based upon receiving the handover request for the non-anchor MSC 14 to use the control message 82 to query its associated media gateway 76 for an IP network address 80. The IP network

address 80 is then returned to the anchor MSC 12 which forwards a control message 82 to its media gateway 74. The media gateway 74 then reroutes speech packets which contain the phone call information to the specified IP network address 80).

In regards to claim 25, Valentine anticipates a network component (Elements 12 or 14), in a communication network comprising a network control plane (Element 32) and a connectivity plane (Element 40), for routing a connectivity plane message to a mobile terminal (figures 5 or 6, mobile 20) which can be reached via two or more Media Gateways (MGWs) (MGW 74 and 76 in figures 5 or 6 or 7), the network component comprising: a first interface (interface connecting mobile to MSC) for receiving positional information (interpreted as handoff location) indicating geographical location (interpreted as handoff location) of the mobile terminal and routing information associated with an MSC Server to which the mobile terminal is attached; a determination component (i.e. using associated circuitry) for determining, based on the positional information, one of the two or more MGWs via which the connectivity plane message is to be routed to the mobile terminal; and a second interface for routing the connectivity plane message to the mobile terminal via the determined one of the two or more MGWs (columns 4-5, lines 54-57, Turning to FIG. 5, an embodiment of a communications system according to the invention is shown having MSCs 12 and 14 coupled to corresponding media gateways 74 and 76 within PLMN 50. The MSCs 12 and 14 and media gateways 74 and 76 are coupled to the IP network 40. When a user of mobile handset 20 places a call, the call is connected to anchor MSC 12. As the hand set user moves into the operating area of the non-anchor MSC 14, the inter-MSC handover occurs over the IP

network 40 rather than through circuit connection 32. The fact that inter-MSC handover occurs over the IP network 40 reduces the use of the circuit connection 32. In general, handover occurs through the communication of MSCs 12 and 14 with their corresponding media gateways 74 and 76. The fact that IP network 40 is utilized means that more efficient use of the cellular network can be achieved since MSCs 12 and 14 are connected to the same IP network 40. Thus, voice data packets remain packetized as long as possible over a less expensive connection medium. Two mechanisms for by-passing the circuit connections 32 between MSC 12 and 14 will be described. First, a method of communicating IP address information between the MSCs 12, 14 and the media gateways 74, 76 is contemplated. When the MSC 12 anchors a call, a call is initiated through handset 20 having an associated Visitor Location Register (VLR). The anchor MSC 12 transmits a network IP address 80 to its corresponding media gateway 74. The IP address 80 may be used as a transaction identifier which can include the IP address, socket, and/or session number associated with the media gateway 74 for that call, for example. Thus, the anchor MSC 12 sends the IP network address 80 that is currently being used for the call to the non-anchor MSC 14. The IP network address 80 is in effect being used as a transaction identifier, but may actually be a socket identifier or other identifier that will enable the media gateway 74 at the anchor MSC 12 to unambiguously identify the call. Next, the IP network address 80 can be transmitted to the non-anchor MSC 14 along with other information as part of the inter-MSC handover procedure. The non-anchor MSC 14 communicates with its associated media gateway 76 through a control message 82 to contact the media

gateway 74 with the given IP network address 80 and request redirection of the speech packets. The media gateway 76 does this with a control message 82 across the IP network 40. The media gateway 74 at the anchor MSC 12 responds with an acknowledgment to the media gateway 76 at the non-anchor MSC 16 which then informs the MSC 14. The handover is then performed by transmitting speech packets 84 containing a voice message over the IP network 40 from MSC 12 to MSC 14 as shown in FIG. 7. The IP address 80 can be sent from the anchor MSC 12 to the non-anchor MSC 14 in a Mobile Application Part (MAP) message. As is known to those of ordinary skill, MAP refers to a control protocol used between nodes in the GSM network. There are existing MAP messages used for inter-MSC handover that go between the anchor MSC 12 and the non-anchor MSC 14. Thus, the invention contemplates adding the IP address information to these existing MAP messages. An alternate method of the present invention is based upon receiving the handover request for the non-anchor MSC 14 to use the control message 82 to query its associated media gateway 76 for an IP network address 80. The IP network address 80 is then returned to the anchor MSC 12 which forwards a control message 82 to its media gateway 74. The media gateway 74 then reroutes speech packets which contain the phone call information to the specified IP network address 80).

In regards to claim 7, Valentine teaches positional information is included in the routing information (column 5, lines 9-24).

In regards to claim 9, Valentine teaches determining, based on the positional information or receiving transmission information specifying the transmission regime, via

which the connectivity plane message is to be routed to the selected MGW (columns 4-5, lines 54-57).

In regards to claim 26, Valentine teaches a component for extracting the positional information from the routing information (column 5 lines 25-36).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine et al. (US PAT 6353607, hereinafter Valentine).

In regards to claim 3, Valentine teaches in one embodiment of figures 5, 6 and 7 all the limitations of claim 1 above but does not explicitly teach message is routed via the selected MGW to the MSC Server.

Valentine teaches in a different embodiment of figure 4 message is routed via the selected MGW to the MSC Server.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Valentine's figures 5, 6 and 7 system/method the steps of message is routed via the selected MGW to the MSC Server as suggested in figure 4 by Valentine. The motivation is that, the position of MGWs and MSCs are based

on network requirement and design choice to implement successful communication between circuit switched network and packet switched network. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

3. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine et al. (US PAT 6353607, hereinafter Valentine) in view of Easley (US PAT PUB 2007/0093245).

In regards to claim 2, Valentine teaches all the limitations of claim 1 above but does not explicitly teach the positional information indicates the geographical location of the mobile terminal within an area served by a MSC Server.

Easley in the same field of endeavor teaches the positional information indicates the geographical location of the mobile terminal within an area served by a MSC Server (paragraph 0059, the routing includes use of the Initial Address Message (IAM) in the Integrated Services Digital Network User Part (ISUP) of the SS7 protocol. The IAM includes at least Laura's MIN and/or MDN, and may include a point code or other identifier for the MSC 20 (i.e. positional information, indicating the geographical location) serving Laura's wireless unit 24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Valentine's system/method the steps of the positional information indicates the geographical location of the mobile terminal within

an area served by a MSC Server as suggested by Easley. The motivation is that, inclusion of such information enables the routing system to reliably and efficiently ascertain the correct routing parameters that needs to be used for successful routing; thus enabling successful routing process. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 8, Valentine does not explicitly teach positional information being received separately from the routing information.

Easley in the same field of endeavor teaches positional information being received separately from the routing information (paragraph 0059, MIN and/or MDN (i.e. routing information), being received in an separate field element of IAM message from a point code or other identifier for the MSC 20 (i.e. positional information, indicating the geographical location) serving Laura's wireless unit 24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Valentine's system/method the steps of positional information being received separately from the routing information as suggested by Easley. The motivation is that by concretely defining different message elements within a message, a clear and precise routing and positional information can be conveyed to routing elements; thus enabling a successful parsing and decoding of routing and positional parameters. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other

market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

4. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine et al. (US PAT 6353607, hereinafter Valentine) in view of Lin (US PAT PUB 2002/0196770).

In regards to claim 4, Valentine teaches routing of the connectivity plane message is performed in a communications network that includes a first network portion and a second network portion having a monolithic architecture (Figures 5, 6 or 7 PLMN 50).

Valentine do not explicitly teach a network portion having split architecture.

Lin teaches a network portion having split architecture (Figure 5, service area 513).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Valentine's system/method the steps of a network portion having split architecture as suggested by Lin. The motivation is that (as suggested by Lin, paragraph 0030) such method provides very efficient distributed call processing and connection control functions, while appearing as a single entity; thus providing for call set-up with minimum and localized resources. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 5, Valentine teaches selected MGW is arranged between the first network portion and the second network portion (figures 5, 6 or 7, MGW 74 or 76).

In regards to claim 6, Valentine teaches selected MGW is selected such that resources utilized by the routed connectivity plane message in the first network portion are minimized (column 5 lines 58-63, The novel method and system of reducing the use of circuit connection 32 between MSCs 12 and 14 of a wireless communications system provides considerable transmission efficiency gains. Use of circuit connection 32 is reduced or eliminated with the present invention, providing more bandwidth on the network).

5. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Baird et al. (US PAT 7539179, hereinafter Baird).

In regards to claims 22 and 23, Valentine teaches two or more Media Gateways (MGWs) (figures 5, 6, or 7).

Valentine does not explicitly teach each combined network node comprising a Media Gateway (MGW) and a Signaling Gateway (SGW).

Baird in the same or similar field of endeavor teaches FIG. 8 depicts a network configuration with a combined media gateway/signaling gateway 52 (column 7 lines 23-24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Valentine's system/method the steps of combined network node comprising a Media Gateway (MGW) and a Signaling Gateway (SGW) as

suggested by Baird. The motivation is that (as suggested by Baird, column 3 lines 25-50) having MGW and SGW enhances network capability as each signaling gateway capable of terminating multiple packet-switched call signaling connections (each call signaling connection corresponds to a particular packet-switched call); Each signaling gateway multiplexes the signaling content of the call signaling connections it serves onto a single session, or a small number of sessions; while the media gateway controller communicates with each of the signaling gateways and each of the media endpoints, and uses the multiplexed signaling content received from the signaling gateways to control operation of the media endpoints. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

Response to Arguments

Applicant's arguments see pages 6-12 of the Remarks section, filed 1/14/2011, with respect to the rejections of the claims have been fully considered.

Applicant argues that (see page 7), Valentine, does not disclose the claim 1 element; "*...based on the positional information, selecting one of the two or more MGWs of the connectivity plane via which the connectivity plane message is to be routed to the mobile terminal...*"

However, Examiner respectfully disagrees with Applicant's assertion. Valentine does indeed teach the cited limitations. Specifically, Valentine teaches *based on the positional information (i.e. interpreted as based on hand-off information to a non-anchor*

MSC), selecting one of the two or more MGWs of the connectivity plane (i.e. interpreted as The non-anchor MSC 14 communicates with its associated media gateway 76 through a control message 82 to contact the media gateway 74 with the given IP network address 80 and request redirection of the speech packets. The media gateway 76 does this with a control message 82 across the IP network 40) *via which the connectivity plane message is to be routed* (i.e. interpreted as inter-MSC handover) *to the mobile terminal* (columns 4-5, lines 54-57, Turning to FIG. 5, an embodiment of a communications system according to the invention is shown having MSCs 12 and 14 coupled to corresponding media gateways 74 and 76 within PLMN 50. The MSCs 12 and 14 and media gateways 74 and 76 are coupled to the IP network 40. When a user of mobile handset 20 places a call, the call is connected to anchor MSC 12. As the hand set user moves into the operating area of the non-anchor MSC 14, the inter-MSC handover occurs over the IP network 40 rather than through circuit connection 32. The fact that inter-MSC handover occurs over the IP network 40 reduces the use of the circuit connection 32. In general, handover occurs through the communication of MSCs 12 and 14 with their corresponding media gateways 74 and 76. The fact that IP network 40 is utilized means that more efficient use of the cellular network can be achieved since MSCs 12 and 14 are connected to the same IP network 40. Thus, voice data packets remain packetized as long as possible over a less expensive connection medium. Two mechanisms for by-passing the circuit connections 32 between MSC 12 and 14 will be described. First, a method of communicating IP address information between the MSCs 12, 14 and the media gateways 74, 76 is contemplated. When the

MSC 12 anchors a call, a call is initiated through handset 20 having an associated Visitor Location Register (VLR). The anchor MSC 12 transmits a network IP address 80 to its corresponding media gateway 74. The IP address 80 may be used as a transaction identifier which can include the IP address, socket, and/or session number associated with the media gateway 74 for that call, for example. Thus, the anchor MSC 12 sends the IP network address 80 that is currently being used for the call to the non-anchor MSC 14. The IP network address 80 is in effect being used as a transaction identifier, but may actually be a socket identifier or other identifier that will enable the media gateway 74 at the anchor MSC 12 to unambiguously identify the call. Next, the IP network address 80 can be transmitted to the non-anchor MSC 14 along with other information as part of the inter-MSC handover procedure. The non-anchor MSC 14 communicates with its associated media gateway 76 through a control message 82 to contact the media gateway 74 with the given IP network address 80 and request redirection of the speech packets. The media gateway 76 does this with a control message 82 across the IP network 40. The media gateway 74 at the anchor MSC 12 responds with an acknowledgment to the media gateway 76 at the non-anchor MSC 16 which then informs the MSC 14. The handover is then performed by transmitting speech packets 84 containing a voice message over the IP network 40 from MSC 12 to MSC 14 as shown in FIG. 7. The IP address 80 can be sent from the anchor MSC 12 to the non-anchor MSC 14 in a Mobile Application Part (MAP) message. As is known to those of ordinary skill, MAP refers to a control protocol used between nodes in the GSM network. There are existing MAP messages used for inter-MSC handover that go

between the anchor MSC 12 and the non-anchor MSC 14. Thus, the invention contemplates adding the IP address information to these existing MAP messages. An alternate method of the present invention is based upon receiving the handover request for the non-anchor MSC 14 to use the control message 82 to query its associated media gateway 76 for an IP network address 80. The IP network address 80 is then returned to the anchor MSC 12 which forwards a control message 82 to its media gateway 74. The media gateway 74 then reroutes speech packets which contain the phone call information to the specified IP network address 80).

Applicant argues that (see page 8) Valentine does not a gateway. However, Examiner respectfully disagrees with Applicant's assertion. The current claim language is broad and in view of the broadest reasonable interpretation of the claim language Valentine does select MGW related to non-anchor MSC.

Applicant argues that (page 8) there is no selection step disclosed in the Valentine reference and it appears that Valentine teaches away from selecting MGWs.

However, Examiner again respectfully disagrees with Applicant's assertion. The current claim language is broad and in view of the broadest reasonable interpretation of the claim language Valentine does implicitly does a selection step when it chooses MGW for the non-anchor MSC; i.e. the non-anchor MSC 14 communicates (implicit selection) with its associated media gateway 76 through a control message 82 to contact the media gateway 74 with the given IP network address 80 and request redirection of the speech packets. Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments.

In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). Furthermore, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed.." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004). Finally, In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "*the present invention exploits the recognition that connectivity plane messages (user data) and network control plane messages (network signaling data) need not be routed together through the same sequence of nodes: The present invention routes a connectivity plane message by taking into account positional information that indicates the geographical location of the mobile terminal. As disclosed in the present invention, connectivity messages may be routed to a mobile terminal through a node selected to minimize system resources, while network control messages are sent to the network control plane node that is associated with the mobile terminal via different intermediate nodes. Simply put, the present invention teaches reaching a mobile terminal via at least two different routes through different media gateways and the route/gateway is selected based on the position/location of the mobile terminal*") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In regards to claim 3, Applicant argues that (page 9) Figure 4 in the Valentine reference is cited as suggesting the steps of the message being routed via a selected MGW to an MSC server. MGW 72 is the "corresponding:" gateway to the MSC 12 as discussed above, in column 4 of the Valentine reference, MGW 72 is located at an MSC site within a service zone of the PLMN, The Applicant respectfully submits that this figure actually supports the Applicant's contention that the MGWs and MSCs correspond. This being the case, the combination d the Valentine over all and the Valentine Figure 4 does not support a prima facie case of obviousness. Furthermore, claim 3 depends from claim 1 and contains the same limitations.

However, Examiner has clearly shown the broadness of the current claim language and has shown that in view of the broadest reasonable interpretation of the claim language, Valentine does indeed teach in a different embodiment of figure 4 message is routed via the selected MGW to the MSC Server.

Applicant argues that (page 10) nowhere in the cited portion is the location or position of Laura mentioned. In fact, nowhere in the Easley reference is physical location of the calling party or the called party mentioned or taught. All 'location: references are related to the operation and use of a Home Location Register of the mobile terminals. As demonstrated, the location of the mobile terminal's MSC is not pertinent to the present invention.

However, Examiner respectfully disagrees with Applicant's assertion. The cited portion does indeed teach the cited limitations. Specifically, in view of the broadest reasonable interpretation of the claim language "positional information indicates the

geographical location", Easley in the same field of endeavor teaches the positional information indicates the geographical location (i.e. broadly interpreted as a point code or other identifier for the MSC 20) of the mobile terminal within an area served by a MSC Server (paragraph 0059, the routing includes use of the Initial Address Message (IAM) in the Integrated Services Digital Network User Part (ISUP) of the SS7 protocol. The IAM includes at least Laura's MIN and/or MDN, and may include a point code or other identifier for the MSC 20 (i.e. positional information, indicating the geographical location) serving Laura's wireless unit 24)

Therefore, the claims stand rejected.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SALMAN AHMED whose telephone number is (571)272-8307. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571)272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Salman Ahmed/

Primary Examiner, Art Unit 2476